Air Pollution Control District
Jefferson County, Ky
11 November 2002

TITLE V PERMIT SUMMARY

Company: Reynolds Metals Company, Louisville Laminating Plant

Plant Location: 1225 W. Burnett Ave., Louisville, KY 40210

Date App. Received: 21 April 1997 **Date Admin. Complete:** 17 June 1997

Date of Draft Permit: 10 December 2000 **Date of Proposed Permit:** 27 April 2001

District Engineer: John C. McCarthy **Permit No.:** 148-97-TV(R1)

Plant ID: 0015 **SIC Code:** 3497 **NAICS:** 332999 **AFS:** 00015

Introduction:

This permit will be issued pursuant to: (1) District Regulation 2.16, (2) Title 40 of the Code of Federal Regulations Part 70, and (3) Title V of the Clean Air Act Amendments of 1990. Its purpose is to identify and consolidate existing District and Federal air requirements applicable to Reynolds Metals Co., Louisville Laminating Plant and to provide methods of determining continued compliance with these requirements.

Jefferson County is classified as an attainment area for sulfur dioxide (SO_2), nitrogen oxides (NO_x), carbon monoxide (CO), particulate matter (PM), particulate matter less than 10 microns (PM_{10}), and lead (Pb); unclassifiable for particulate matter less than 2.5 microns ($PM_{2.5}$); and is a moderate non-attainment area for ozone (O_3).

Reynolds Metals Company operates a laminating plant. Adhesives are used to laminate paper, board and other substrates to aluminum foil. Rotogravure printing stations are used to apply water-based and solvent-based coatings and inks to aluminum foil, paper and board.

Application Type/Permit Activity:

[ ] Initial Issuance
[X] Permit Revision
  [X] Administrative
  [ ] Minor
  [ ] Significant
[ ] Permit Renewal

Compliance Summary:

[X] Compliance certification signed [ ] Compliance schedule included
[ ] Source is out of compliance

I. Source Description

1. **Class I Area Impacts:** This source is not located in or near a Class I area.

2. **Product Description:** Laminated and/or coated/printed aluminum foil.

3. **Overall Process Description:** Reynolds Metals Company laminates paper, board and other substrates to aluminum foil or steel using adhesives or heat seal. Rotogravure printing stations are used to apply water-based and solvent-based coatings and inks to the aluminum foil, paper and board. The company has eight machines which do a combination of laminating and printing/coating. The company has two machines which are used just for printing/coating. Each machine is equipped with a drying oven. Three process scrap conveying systems are used for conveying scrap laminated stock and aluminum trim from the slitters and spoolers.

4. **Site Determination:** There are no other facilities that are contiguous or adjacent and under common control.

5. **Emission Unit Summary:**

   a. U-1: Laminator #12

   b. U-2: Laminators #6, #7, #8, #9, #10, #11, & #14; Coaters #15 & #16.

   c. U-3: 4 Indoor Aboveground Storage Tanks

   d. U-4: 2 Heating Boilers

   e. U-5: 1 Non-halogenated Cold Solvent Parts Cleaner with a secondary reservoir

   The following activities associated with Emission Unit Nos. U-1 and U-2 are activities that have negligible emissions:

Description	Quantity
Electric Batch "Cookers" for coatings	2
Lacquer Mixing Room - 3 Submerged-fill Arms for filling drums with solvent; 1 Mixer; 2 Floor Vents; & 1 Ceiling Hood	1

6. **Fugitive Sources:** There are fugitive VOC emissions from the laminators and coaters, the Lacquer Mixing Room, the Lacquer Storage Room, the Glue Room, two electric batch cookers for coatings, and a cold solvent parts cleaner.

7. **Permit Revisions:**

   Revision 1, dated 11/11/2002, was an administrative permit revision that did not require public comment, to include the following change:

   The revision corrected a typo in Additional Condition 2ai. .....-for water-borne coatings/inks run on Machine #16, the value is 50% of the actual pounds of VOCs emitted from the water-borne mixture;..... The value was corrected from 60% to 50%.

8. **Title V Major Source Status by Pollutant:**

Pollutant	Actual Emissions (tpy) 2001 Data	Major Source Status (based on PTE)
CO	4.25	No
NO_X	5.06	No
SO_2	0.03	No
PM	0.38	No
VOCs	147.51	Yes
Single HAP (> 1 tpy)		
Methyl Ethyl Ketone	9.17	Yes
Toluene	4.23	Yes
Total HAPs (VOC and Non-VOC)	18.18	Yes

9. **Applicable Requirements:**

   [ ] PSD [ ] NSPS [X] SIP [ ] NSR [X] NESHAPS
   [X] District-Origin [X] MACT [ ] Other

10. **Referenced Federal Regulations in Permit:**

    a. 40 CFR 52, Subpart S, 52.920, State Implementation Plan Revision - Federal Register, May 16, 1990 and January 13, 1998

    b. 40 CFR 63, Subpart KK, National Emission Standards for the Printing and Publishing Industry

    c. 40 CFR 63, Subpart A, General Provisions

II. Regulatory Analysis

1. **Emission and Operating Caps:**

a. **Rotogravure Printing/Coating Machines**

Emission Units U-1 & U-2 - Nine of the rotogravure printing/coating machines are covered by a source-specific State Implementation Plan Revision (Federal Register, May 16, 1990 and January 13, 1998, 40 CFR Part 52, Subpart S, 52.920). These machines are treated as one affected facility when determining compliance with the plan and are not allowed to emit more than 1458 pounds VOC per day or 266.2 tons VOC per year. The nine machines must also comply with a daily "RACT-allowable" as specified in the plan. The other rotogravure printing/coating machine at the plant (Laminator #12) is not allowed to emit more than 35% by weight of the VOCs net input into the process when nonexempt coatings and inks are being applied. See the Title V Operating Permit for more information. See Emission Unit U-2, Additional Condition #1.a.i. for more information on the emission and operating limits specified in the SIP revision. Due to a physical change increasing the speed of Laminator #6, this machine is restricted to less than 40.689 tons VOC per year to insure that the modification will not cause a "significant net emission increase".

The ten rotogravure printing/coating machines are subject to the hazardous air pollutant emission limits specified in 40 CFR Part 63, Subpart KK, National Emission Standards for the Printing and Publishing Industry. The company has chosen to comply with the toxic air pollutant emission standards specified in Regulation 5.11, Standards of Performance for Existing Sources Emitting Toxic Air Pollutants and Regulation 5.12, Standards of Performance for New or Modified Sources Emitting Toxic Air Pollutants, by maintaining monthly records to demonstrate that the modeling input parameters have not changed such that compliance with the Threshold Ambient Limits (TALs) would be invalidated.

The company may not discharge into the atmosphere any gases containing particulate matter equal to or greater than 20 percent opacity.

b. **4 Indoor Aboveground Storage Tanks**

Emission Unit U-3 - The storage tanks are subject to Regulation 7.12, Standard of Performance for New Storage Vessels for Volatile Organic Compounds, which requires a submerged fill pipe if the true vapor pressure of the VOCs, as stored, is equal to or greater than one and one-half (1.5) psia. The storage tanks do not have an allowable VOC emission limit and are not subject to 40 CFR Part 60, Subpart Kb, Standards of Performance for Volatile Organic Liquid Storage Vessels (Including Petroleum Liquid Storage Vessels) for Which Construction, Reconstruction, or Modification Commenced After July 23, 1984.

c. **2 Heating Boilers**

Emission Unit U-4 - The PM emission standards in Regulation 6.07, Standards of Performance for Existing Indirect Heat Exchangers, can not be exceeded when burning natural gas or no. 2 fuel oil, based on AP-42 (5th Edition Supplement, dated 9/98) emission factors. The SO_2 emission standards cannot be exceeded when burning natural gas or no. 2 fuel oil, based on AP-42 (5th Edition Supplement, dated 9/98) emission

factors, if the sulfur content of the oil is kept below 0.97% for an oil having a heat content of 138,000 BTU/gallon or more. Regulation 6.07 also specifies that the visible emissions shall not be greater than 20% opacity, except as exempted in section 3.3.

d. **1 Cold Solvent Parts Cleaner with a secondary reservoir**
Emission Unit U-5 - The parts cleaner is subject to the control equipment, operating, and material requirements specified in Section 4 of District Regulation 7.18, Standards of Performance for New Solvent Metal Cleaning Equipment, rather than VOC emission limits. Mineral spirits is currently being used in this parts cleaner.

2. **Compliance Status:** The source signed and submitted a Title V compliance certification in its permit application.

3. **Operational Flexibility:** In the Title V Permit Application, the company requested an alternative operating scenario that would allow Laminator #12 to operate without the thermal oxidizer when exempt inks and coatings are being used.

4. **Testing Requirements:**

a. **VOCs**
Emission Units U-1 & U-2 - The permit and the SIP Revision specify that the company shall perform any additional compliance testing as required by the District as specified in Regulation 1.04, Performance Tests, Regulation 6.01, General Provisions, Section 4, and Regulation 6.29, Standard of Performance for Existing Graphic Arts Facilities Using Rotogravure and Flexography, Section 4. (In addition to the thermal oxidizer on Laminator #12, a control efficiency of 50% is achieved on Coater #16 from recirculating the air through the oven on Coater #16.)

b. **Hazardous Air Pollutants**
Emission Units U-1 & U-2 - If the company changes its initial decision and uses the thermal oxidizer on Laminator #12 to comply with 40 CFR Part 63, Subpart KK, National Emission Standards for the Printing and Publishing Industry, an initial performance test of the capture efficiency must be conducted. If continuous emission monitors are not used, the regulation also specifies that the company must demonstrate initial compliance through a performance test of the control device efficiency.

5. **Periodic Monitoring, Record Keeping and Reporting Requirements:** The source is required to monitor, maintain records of, and report on various operating parameters to demonstrate ongoing compliance with all applicable requirements. Compliance reporting is required semi-annually, except where underlying applicable regulations or permit conditions require more frequent reporting.

a. **VOCs**
i. **Emission Unit U-1** - For Laminator #12, the company shall calculate VOC emissions on a daily basis using the District approved format used for the machines

in the SIP Revision Application (Federal Register, May 16, 1990 and January 13, 1998, 40 CFR Part 52, Subpart S, 52.920) except as specified otherwise in the permit or unless changes to the reporting system are approved or requested by the District. (Laminator #12 is not subject to the SIP Revision but this is done so that the record keeping will be consistent.) There are some additional record keeping requirements in Regulation 6.29, Standard of Performance for Existing Graphic Arts Facilities Using Rotogravure and Flexography, which are applicable. In addition, the company must monitor and record the combustion chamber temperature of the thermal oxidizer and keep records of thermal oxidizer malfunctions and bypasses. In the semi-annual compliance report, the company must summarize any problems which have occurred with the thermal oxidizer and give a description of the corrective actions or preventive measures taken.

ii. **Emission Unit U-2** - For Laminators #6, #7, #8, #9, #10, #11, and #14, and Coaters #15, and #16, the company shall continue using the present compliance reporting system, as specified in the SIP Revision Application (Federal Register, May 16, 1990 and January 13, 1998, 40 CFR Part 52, Subpart S, 52.920) unless changes to the system are approved or requested by the District. This system keeps track of the production and the coatings used so that the company can demonstrate compliance with the VOC emission standards on a daily basis. Compliance reports must be submitted for each calendar month. The company is also required to periodically verify the accuracy of their coating data and keep track of the annual VOC emissions for Laminator #6.

iii. **Emission Unit U-3** - The company must keep records of the materials stored in Tank #4 to demonstrate that the true vapor pressure of the VOCs, as stored, is less than one and one-half (1.5) psia. True vapor pressure "as stored" shall be determined on an instantaneous basis under conditions representing expected worst case conditions.

iv. **Emission Unit U-5** - The company must conduct monthly inspections to verify ongoing compliance with the control and operational requirements specified in Section 4 of Regulation 7.18, Standards of Performance for New Solvent Metal Cleaning Equipment. The company must maintain records for each solvent purchase as specified in Section 4 of Regulation 7.18.

b. **Hazardous Air Pollutants**

Emission Units U-1 & U-2 - 40 CFR Part 63, Subpart KK, National Emission Standards for the Printing and Publishing Industry has various requirements to ensure that the monitoring equipment is properly operated and maintained. If the thermal oxidizer is used for compliance purposes, this includes requirements for continuous emission monitors, temperature monitors, and the operating parameters which are monitored to ensure that the capture efficiency, measured during the initial compliance test, is maintained. Records shall be kept on a monthly basis for material usage, HAP usage, volatile matter usage, and solids usage that support data that the source is required to report. The following additional records shall be required if the thermal oxidizer is used for achieving compliance with the HAP regulation: Various startup, shutdown, and malfunction information for process equipment and air pollution control equipment;

maintenance performed on the air pollution control equipment; various information on continuous monitoring system (CMS) performance, maintenance, calibration, quality control, malfunctions, and corrective action taken; performance test information; all required measurements needed to demonstrate compliance with the emission standards such as continuous emission monitor data, control device and capture system operating parameter data; liquid-liquid material balances if a solvent recovery device is used; all required CMS measurements; each period of excess emissions and parameter monitoring exceedances; the total process operating time during the reporting period; and other miscellaneous data. If the company qualifies for various exemptions from the regulation, the records required by the regulation shall be maintained. The company must submit the following reports which are applicable: a notification of performance tests; a notification of compliance status; performance test reports; start-up, shutdown, and malfunction reports; and summary reports.

c. **TAPs**

The company is required to monitor and maintain records of the operational parameters(s) being used to assure proper operation of each control device and continued compliance with all applicable emission standards or limits.

The company is required to maintain monthly records to demonstrate that the modeling input parameters have not changed such that compliance with the Threshold Ambient Limits (TALs) would be invalidated; and make these records available to the District upon request..

d. **Sulfur Dioxide**
Emission Unit U-4 - The company is required to keep records of the monthly fuel oil usage for the boilers and purchase records that show the heating value and sulfur content for the fuel oil. The above records must be available upon request by the District.

e. **Opacity**
Emission Units U-1, U-2, & U-4 - The company is required to conduct daily one-minute visible emission surveys when fuel oil is burned in Laminator #12 Oven (Stack No. S1), in Laminator #12 Thermal Oxidizer (Stack No. S1), in Laminator #10 Oven (Stack No. S10), in Coater #15 Oven (Stack Nos. S13, S14, and S15), and in the West Boiler or the East Boiler (Stack Nos. S-18 and S-19). For those emission points without observed visible emissions, less frequent (weekly) visible emission surveys will be required. The daily/weekly visible emissions surveys described above should be adequate periodic monitoring to demonstrate ongoing compliance with the opacity standard. The company is required to initiate corrective action within 8 hours if visible emissions are observed during the survey. If visible emissions persist, a Method 9 opacity determination is required. It is anticipated that no opacity problems should occur when natural gas is being burned and that only sporadic opacity may occur when fuel oil is used. Historically, no exceedance of the opacity standards has been observed from these emission units by the District. The periodic surveys coupled with Method 9 tests, if necessary, should be adequate monitoring to reasonably assure the company meets its opacity obligations for these emission units.

6. **Off-Permit Documents:**

Document	Date
SIP Revision, approved and published in the Federal Register, 40 CFR Part 52, Subpart S, 52.920	16 May 1990 and 13 January 1998
Rule Effectiveness Plan	30 January 1995
Rule Effectiveness Improvement Measures	27 April 1995

The District considers an "off-permit document" as a document on which a source's compliance with given regulation(s) is contingent or which contains regulatory requirement(s), but is only referenced in a source's Title V Operating Permit. The designation "off-permit document" shall be made at the District's discretion, and may include, but not be limited to, documents such as Regulation 1.05 VOC compliance plans, PMPs, MOCS; or other documents which are too voluminous to be included in a source's Title V Operating Permit, as determined by the District.

III. Other Requirements

1. **Temporary Facilities:** The source did not request to operate any temporary facilities.

2. **Short Term Activities:** The source did not report any short term activities.

3. **Compliance Schedule/Progress Reports:** The source has certified compliance with all applicable requirements; therefore, no compliance schedule or progress reports are necessary.

4. **Emissions Trading:** The company does not have any emission reduction credits in the Jefferson County Emissions Bank for this plant. Emission reduction credits were purchased and are being used as part of the State Implementation Plan Revision (Federal Register, May 16, 1990 and January 13, 1998, 40 CFR Part 52, Subpart S, 52.920).

5. **Acid Rain Requirements:** The source is not subject to the Acid Rain Program.

6. **Stratospheric Ozone Protection Requirements:** Title VI of the CAAA regulates ozone depleting substances and requires a phase-out of their use. This rule applies to any source that manufactures, sells, distributes, or otherwise uses any of the listed chemicals. The plant has halon fire extinguishers, window air conditioning units, refrigerators, plant HVAC systems and Coater #15 has a chiller. Several of these systems utilize R22 or other refrigerants and therefore may be subject to 40 CFR 82 Subpart F.

7. **Prevention of Accidental Releases 112(r):** The source does not manufacture, process, use, store, or otherwise handle one or more of the regulated substances listed in 40 CFR 68 Subpart F and Regulation 5.15, Chemical Accident Prevention Provisions, in a quantity in excess of the corresponding specified threshold amount.

8. **Insignificant Activities:** The following activities, as referenced in the source's Title V Permit Application, have been determined by the District to be insignificant.

Insignificant Activities		
Description	**Quantity**	**Basis**
VOC Storage Tanks, 250 gallons or less, for water-based and solvent-based coatings	Various	Exempt, Regulation 2.02, section 2.3.24
Storage Tanks, fuel or lubricating oils with V.P. < 10 mm Hg at 20 degrees C	Various	Exempt, Regulation 2.02, section 2.3.9.2
Storage Tank, 8000 gallons, no. 2 fuel oil, not for sale, resale or distribution, annual turnover < 2 x capacity	1	Exempt, Regulation 2.02, section 2.3.25
Combustion Sources < 10 MMBTU/hr - natural gas with some no. 2 fuel oil backup	11	Exempt, Regulation 2.02, section 2.1.1
Research & Development Activities - R & D Lab.	1	Exempt, Regulation 2.02, section 2.3.27
Internal Combustion Engines	Various	Exempt, Regulation 2.02, section 2.2
Brazing, Soldering, or Welding Operation	1	Exempt, Regulation 2.02, section 2.3.4
Emergency Relief Vents or Ventilating Systems (Not otherwise regulated)	Various	Exempt, Regulation 2.02, section 2.3.10
Lab Ventilating & Exhausting Systems Non Radioactive Materials	Various	Exempt, Regulation 2.02, section 2.3.11
Indoor PM Collectors, Non 5.11, 5.12, or 5.14 Regulated Material	Various	Exempt, Regulation 2.02, section 2.3.21
Process Scrap Conveying System, consisting of 1 cyclone, 1 baler, 1 vacuum pickup system and ductwork for conveying scrap laminated stock from Slitters #9, #12, #14, #18 & #20	1	See (a) below
Process Scrap Conveying System, consisting of 1 cyclone, 1 baler and ductwork for conveying scrap laminated stock from Slitters #17, #19, #21, #22, #23, & #24	1	See (a) below
Process Scrap Conveying System, consisting of 1 collection bin and ductwork for conveying aluminum trim from Slitter #16, vents indoors	1	Negligible emissions
Glue Room - 1 Glue Storage Tank, approx. 8000 gals.; 3 Glue Mixing Tanks, approx. 500 gals. each; & 3 Cleanup Troughs	1	Negligible emissions See (b) below

Insignificant Activities		
Description	**Quantity**	**Basis**
Portable Tote Tanks, for raw material shipment of solvent-based coatings. Tanks hold approximately 335 gallons each.	Various	Negligible emissions See (c) below
Portable Vacuum Pickups (vacuum cleaner like), vent indoors	Various	Negligible emissions
Sandblast Booth for repair and maintenance activities, vents indoors	1	Negligible emissions
Caustic Cleaner for cleaning rotogravure rolls, vibrating cleaning	1	Negligible emissions
Cooling Towers	2	See (d) below.

a. This is process equipment. The potential PM emissions from the two scrap conveying systems are less than 1 ton per year.

b. The company uses water-based glues. Some of the glues that are used have no VOCs and most have less than 0.30 percent VOC by weight. Depending on the glue stored, the Glue Storage Tank could be subject to Regulation 6.13, Standard of Performance for Existing Storage Vessels for Volatile Organic Compounds, but there would be no emission standards or operating requirements that would apply. The glue currently stored in this tank has 0.00% VOC by weight.

c. The District regulations relating to storage tanks do not apply to this type of operation.

d. Chromium-based water treatment chemicals are not used; therefore 40 CFR Part 63, Subpart Q, National Emission Standards for Hazardous Air Pollutants for Industrial Process Cooling Towers, does not apply.

e. Insignificant Activities are only those activities or processes falling into the general categories defined in Regulation 2.02, Section 2, and not associated with a specific operation or process for which there is a specific regulation. Equipment associated with a specific operation or process (Emission Unit) shall be listed with the specific process even though there may be no applicable requirements. Information contained in the permit and permit summary shall clearly indicate that those items identified with negligible emissions have no applicable requirements.

f. Activities identified in Regulation 2.02, Section 2, may not require a permit and may be insignificant with regard to application disclosure requirements but may still have generally applicable requirements that continue to apply to the source and must be included in the Title V permit.

    i. No facility, having been designated as an insignificant activity, shall be exempt from any generally applicable requirements which shall include a 20% opacity limit for facilities not otherwise regulated.

    ii. No periodic monitoring shall be required for facilities designated as insignificant activities.